



# Computerized Cancer CME for Primary Care Physicians

Grant Number: R25/R44CA92885-03

## Abbreviated Abstract

Multi-Media Systems (MMS), in partnership with the Texas Medical Association/Physician Oncology Education Program, will develop and evaluate 10 Internet-based, interactive e-learning CME modules on cancer prevention, screening, early detection, and treatment for primary care physicians. MMS will develop an automated Web-based delivery, tracking, and reporting system to deliver CME credit training via the Internet. Primary care physicians (gatekeepers) need cancer control training to reduce cancer mortality and morbidity. Currently, this type of training is not easily accessible. In Phase I, MMS will design/produce one pilot module that will undergo targeted assessment by a select group of nationally recognized CME experts. It will then be reviewed by a focus group of primary care physicians. Formative research will provide clear guidance to develop the design criteria and model for completing the remaining nine modules. An Expert Review Panel will oversee the development.

During Phase II, the nine remaining CME modules will be developed under this grant. Two additional modules will be developed through alternative funding. The completed courseware, consisting of 12 cancer-specific CME modules, will undergo a statistically valid field evaluation. The completed courseware will reside on an innovative Web site utilizing proprietary compression technology to permit full-motion video, high quality graphics, and audio.

## Primary Investigator

Donald L. Cordes, Ph.D., Multi-Media Systems, Inc., 202 Island Creek Road., Centreville, MD 21617

Phone: (208) 443-3224

Email: [corwal@supersat2.net](mailto:corwal@supersat2.net)

## Research Team & Affiliations

Donald L. Cordes, Ph.D., Principal Investigator/Instructional Designer

Asa Trinh Thorp, M.F.A., Project Manager/Facilitator

Michael Moser, M.S., Video Producer

Barbara Jewler, M.A., Interactive Scriptwriter/Copywriter

Dennis Miller, M.S., Interactive Programmer

Richard Nanni, M.S., Senior Systems Engineer

Jerry Abraham, M.S., Systems Programmer

Multi-Media Systems, Inc.

## Total Budget

\$1,098,757

## Research Objectives

### AIMS

1. Create equivalent e-learning courseware
2. Integrate electronic graphic design standards into courseware Offers
3. Test e-learning vs. paper-based courseware Models



4. Ascertain any meaningful differences between courseware types

### **Theory/Hypothesis**

Physician knowledge and attitudes in the area of cancer prevention, screening and early detection, treatment, and resources/referrals acquired through e-learning courseware will be equivalent or superior to those acquired through existing paper-based courseware.

### **Experimental Design**

Physicians from the target population who volunteered to participate were randomly assigned to take either e-learning or paper-based courseware and were subsequently tested as to their knowledge gain and asked for a self-report of their attitude toward the courseware.

### **Final Sample Size & Study Demographics**

Fifty-five Texas primary care physicians participated in the study. Thirty participants took the e-learning courseware, and 25 participants took the paper-based courseware. As the physicians were volunteers from Texas, they represented all regions of the state and were representative of the age and gender makeup of the primary care physician population.

### **Data Collection Methods**

Physician participants took an examination in a monitored environment.

### **Outcome Measures**

Knowledge gain, attitude toward the type of courseware used

### **Evaluation Methods**

Change scores were compared for those who took the electronic vs. the paper-based course.

### **Research Results**

No significant differences in any measured area were found between participants taking the e-learning courseware or the paper-based courseware. Overall knowledge on all scale items increased from 66% to 91% pre- to post-intervention.

### **Barriers & Solutions**

Physician time to create the e-learning courseware was the major barrier.

### **Product(s) Developed from This Research**

Computerized CME for Primary Care Physicians: Cancer CMEs available to primary care physicians on the Internet or by CD-ROM. Modules focus on prevention and screening of those at risk for developing cancer as well as state-of-the-art diagnostic testing for those patients presenting with suspicious symptoms and management of patients diagnosed with cancer.